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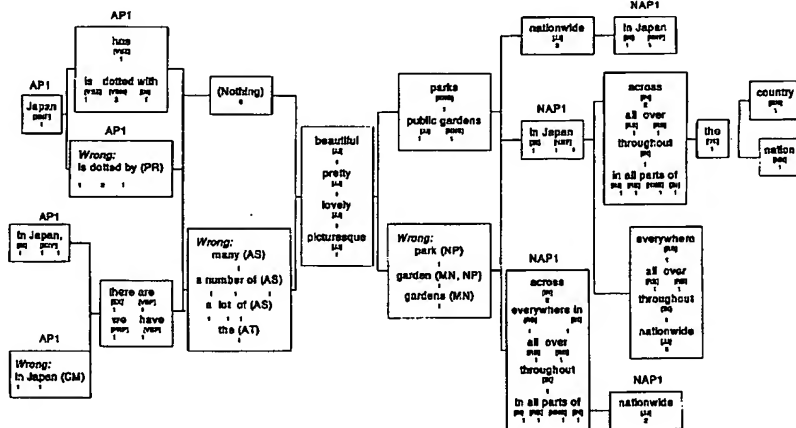
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- (51) 国際特許分類<sup>7</sup>: G09B 19/06 (72) 発明者; および  
(21) 国際出願番号: PCT/JP2004/003838 (75) 発明者/出願人 (米国についてのみ): 徳田 尚之 (TOKUDA, Naoyuki) [JP/JP]; 〒185-0031 東京都 国分寺市 富士本 2 丁目 2 番 3 号 Tokyo (JP). 陳 亮 (CHEN, Liang) [CN/CA]; V2N6X7 プリティッシュコロニア、プリンスジョージ、3901 ウィーブルード、ユニット 216 British Columbia (CA).  
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(26) 国際公開の言語: 日本語 (74) 代理人: 小原 二郎 (OHARA, Jiro); 〒151-0053 東京都 渋谷区 代々木 2 丁目 2 番 1-1 4 号 Tokyo (JP).  
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[続葉有]

(54) Title: INTERACTIVE LEARNING SYSTEM BASED ON TEMPLATE-TEMPLATE STRUCTURE

(54) 発明の名称: テンプレート-テンプレート構造に基づく対話式学習システム



(57) Abstract: A learning system uses the concept of template automaton. "Various expected examples of learners" consisting of "correct" answers and "incorrect" answers are collected and a representative NLP technique such as HCS (heaviest common character string) or LCS (longest common character string) algorithm is used as an effective error diagnosis engine in the language learning system. These examples embedded in the template are used for diagnostic analysis of the answers of the learners. This diagnosis is performed by selecting a path of the highest similarity with the input sentence of the learner among a plenty of candidate paths. Thus, it is possible to automatize and simplify the time-requiring authoring task used in the language-oriented intelligent learning system.

(57) 要約: 本発明の学習システムにはテンプレート・オートマトンの概念が導入されており、「正しい」回答と「誤った」回答からなる多くの「多様な学習者の予想される例」を収集し、効率的なエラー診断エンジンとしてHCS(最重共通文字列)またはLCS(最長共通文字列)アルゴリズム等の代表的なNLP技術を言語学習システムに用い、テンプレート内に埋め込まれたこれらの例を学習者の回答の診断解析のために用いる。この診

[続葉有]



LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NA,  
NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE,  
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UZ, VC, VN, YU, ZA, ZM, ZW.

NL, PL, PT, RO, SE, SI, SK, TR), OAPI (BF, BJ, CF, CG,  
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- (84) 指定国(表示のない限り、全ての種類の広域保護が  
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添付公開書類:

— 国際調査報告書

2文字コード及び他の略語については、定期発行される  
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## INTERNATIONAL SEARCH REPORT

International application No.

PCT/JP2004/003838

A. CLASSIFICATION OF SUBJECT MATTER  
Int.Cl<sup>7</sup> G09B19/06

According to International Patent Classification (IPC) or to both national classification and IPC

## B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)

Int.Cl<sup>7</sup> G09B19/06

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

Jitsuyo Shinan Koho	1922-1996	Toroku Jitsuyo Shinan Koho	1994-2004
Kokai Jitsuyo Shinan Koho	1971-2004	Jitsuyo Shinan Toroku Koho	1996-2004

Electronic data base consulted during the international search (name of data base and, where practicable, search terms used)

## C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
Y	Naoyuki TOKUDA et al., "Template Automaton ni yoru On-line Chiteki Eisakubun Kyoiku Shien System", The Institute of Electronics, Information and Communication Engineers Ronbunshi, J84-D-I, Vol.7, 01 July, 2001 (01.07.01), Vol.J-84-D-I, No.7, pages 1089 to 1101, ISSN 0915-1915	1-6
Y	US 2001/044098 A1 (Benny G. JOHNSON et al.), 22 November, 2001 (22.11.01), Full text; Figs. 1 to 3 (Family: none)	1-6
E,A	JP 2003-150584 A (NEC Corp.), 23 May, 2003 (23.05.03), Full text; Figs. 1 to 23 (Family: none)	1-6



Further documents are listed in the continuation of Box C.



See patent family annex.

\* Special categories of cited documents:

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"&amp;" document member of the same patent family

Date of the actual completion of the international search

21 June, 2004 (21.06.04)

Date of mailing of the international search report

06 July, 2004 (06.07.04)

Name and mailing address of the ISA/

Japanese Patent Office

Authorized officer

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